## AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in this application.

## IN THE CLAIMS:

1. Canceled.

2. (Currently Amended) The method according to claim [[1]] 29, wherein said library of peptides is derived by enzymatic cleavage of the precursor protein or protein-containing biological extract.

3. (Currently Amended) The method according to claim [[1]] 29, wherein said library of peptides is derived by chemical cleavage of the precursor protein or protein-containing biological extract.

4. (Currently Amended) The method according to claim [[1]] 29, wherein said library of peptides is derived by physical digestion of the precursor protein or protein-containing biological extract.

5. (Currently Amended) The method according to claim [[1]] 29, wherein said precursor protein or protein-containing biological extract, or said unfractionated peptide library, is subjected to a determination of optimal cleavage conditions by monitoring the extent or progress of cleavage or digestion.

6. (Original) The method according to claim 5, wherein said determination comprises mass spectometry analysis.

7. (Original) The method according to claim 6 wherein said determination comprises MALDIToF MS analysis.

8. (Previously Amended) The method according to claim 6, wherein said determination is automated.

9. (Currently Amended) The method according to claim [[1]] 29, wherein said library of peptides is provided by chemical synthesis.

10. - 14. Canceled.

15. (Currently Amended) The method according to claim [[1]] 29, wherein said precursor protein is a naturally occurring protein.

16. (Currently Amended) The method according to claim [[1]] 29, wherein said precursor protein is a non-naturally occurring protein.

17. (Currently Amended) The method according to claim [[1]] 29, wherein said precursor protein is a recombinant protein.

18. (Currently Amended) The method according to claim [[1]] 29, wherein said target biological activity is agonist activity.

19. (Currently Amended) The method according to claim [[1]] 29, wherein said target biological activity is antagonist activity.

20. (Currently Amended) The method according to claim [[1]] 29, wherein said target biological activity relates to any human condition.

21. (Currently Amended) The method according to claim 20, wherein said target biological activity relates to conditions selected from the group consisting of arterial and venous thrombosis, inflammation, angiogenesis and cancer.

22. Canceled.

23. (Currently Amended) The method according to claim [[22]] 29, wherein said assay is selected from the group consisting of luminescence based assays for platelet activation, laser-based methods for Prothrombin Time and Activated Partial Thromboplastin Time, luminescence and fluorescence based detection of cell proliferation, cell toxicity and apoptosis and in vivo assays.

24. (Currently Amended) The method according to claim [[22]] 29, wherein said assay is high throughput and automated.

25. (Currently Amended) The method according to claim [[1]] 29, wherein said fractionation of step ~~(iii) and/or step (v)~~ (ii) is carried out by a fractionation method selected from the group consisting of chromatography, field flow fractionation and electrophoresis.

26. (Currently Amended) The method according to claim 25, wherein said fractionation of step ~~(iii) and/or step (v)~~ (ii) is carried out by chromatography.

27. (Currently Amended) An isolated peptide exhibiting one or more target biological activities, which has been detected by the method. according to claim [[1]] 29.

28. Canceled.

29. (New) A method for the detection of bioactive peptides derived from a precursor protein or protein-containing biological extract, comprising the steps of:

(i) providing a library of peptides derived from said precursor protein or protein-containing biological extract;

(ii) separating said library to provide fractions of the library;

(iii) screening said fractions to identify active fractions which include peptides exhibiting one or more target biological activities; and

(iv) isolating from said active fractions one or more peptides exhibiting said one or more target biological activities;

wherein said screening in step (iii) is carried out using an assay which screens for said one or more target biological activities and is selected from the group consisting of biochemical-based assays and cell-based assays.

30. (New) The method according to claim 29, which comprises at least one further step selected from the group consisting of:

(v) screening the library of peptides provided in step (i) to confirm that it includes peptides exhibiting said one or more target biological activities; and

(vi) separating each of the active fractions identified in step (iii) to provide sub-fractions thereof, screening said sub-fractions to identify active sub-fractions which include peptides exhibiting said one or more target biological activities, and isolating from said active sub-fractions one or more peptides exhibiting said one or more target biological activities;

wherein said screening in step (v) and/or step (vi) is carried out using said assay which screens for said one or more target biological activities.

31. (New) The method according to claim 30, wherein said fractionation of step (vi) is carried out by a fractionation method selected from the group consisting of chromatography, field flow fractionation and electrophoresis.